Natural Heritage & Endangered Species Program
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Comb Water-Milfoil

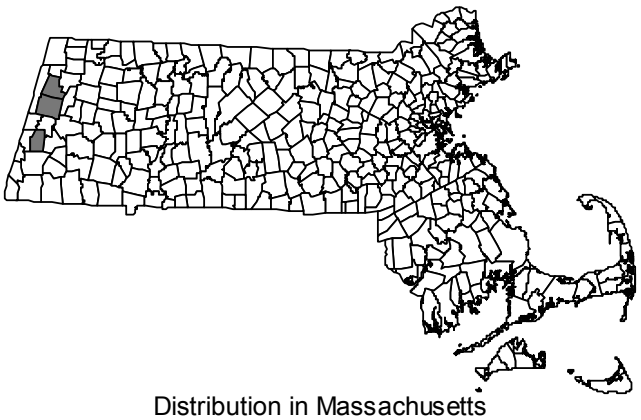
Myriophyllum verticillatum

State Status: **Endangered**
Federal Status: None

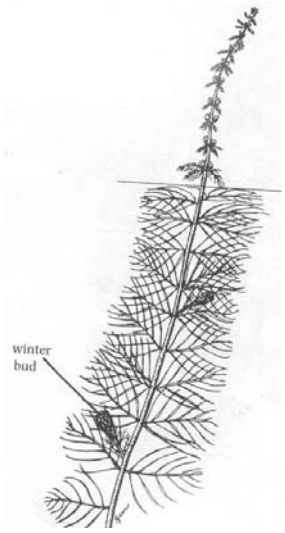
Description: The comb water-milfoil (*Myriophyllum verticillatum*) is an aquatic herb of the Haloragaceae family. The plant grows submersed in water, except for the terminal inflorescence, which emerges above the surface. Small, sessile flowers are oppositely arranged along the uppermost portion of the spike. The stems are elongate and narrow, often branched, and bear whorled leaves that are pinnately dissected into fine segments.

Aids to Identification: Distinguishing the various species of water-milfoils is difficult, especially in the vegetative condition, and a technical manual and an expert should always be consulted. This is one of a few water-milfoils that produce turions, which are small, bulb-like propagules that allow the plant to spread vegetatively. In this species, the turions are club-shaped (wider at the tips than at the base). Another diagnostic character is the presence of consistently deeply lobed floral bracts that greatly exceed (are more than twice as long as) the length of the female flowers The combination of these characters, plus the presence of whorled leaves serves to distinguish this species from the other water-milfoils in Massachusetts.

Similar species: Common water-milfoils could easily be confused with the comb water-milfoil. For example, the native lowly water-milfoil (*Myriophyllum humile)* differs in having leaves that are strictly alternate, rather than whorled as in the comb water-milfoil. The lowly water-milfoil is also more typically found in less alkaline waters than the comb water-milfoil. In addition, the two invasive, non-native species of water-milfoil could be confused with this species. Both of these species also have whorled leaves. However, the Eurasian water-milfoil (*Myriophyllum spicatum*) usually has whorls of leaves that are more widely spaced along the stem, has truncate (straight, as if cut off) uppermost leaf tips, has floral bracts that are less than twice as long as the female flowers, and does not produce winter buds. The variable water-milfoil (*Myriophyllum heterophyllum*) has long bracts beneath the female flowers, like the comb water milfoil, however these bracts are not consistently deeply lobed, having some bracts that are merely toothed. The stem of the variable water-milfoil is often red, unlike the more olive color of the stems of the comb water-milfoil.



Distribution in Massachusetts
1977 - 2002
Based on records in Natural Heritage Database



Crow, Garrett and C. Barre Hellquist. Aquatic and Wetland Plants. 2000.

Habitat: In Massachusetts, the comb water-milfoil is found in shallow, still waters of alkaline lakes and ponds. It is often found growing in association with other rare aquatic species, such as the endangered straight-leaved pondweed (*Potamogeton strictifolius*), and the globally rare and state-endangered Ogden's pondweed (*Potamogeton ogdenii*). It is also found with generally uncommon species that are adapted to alkaline waters, such as water star-grass (*Heteranthera dubia*) and water-marigold (*Megalodonta beckii*).

Population status in Massachusetts: The comb water-milfoil is listed as "Endangered" by the Commonwealth because it is known from only three locations in Massachusetts, all in Berkshire County. As with all species listed in Massachusetts, individuals of the species are protected from take (picking, collecting, killing) or sale under the Massachusetts Endangered Species Act

Management recommendations: The exact needs for management of the comb water-milfoil are not precisely known. Competition with invasive exotic aquatic species such as the Eurasian milfoil (*Myriophyllum spicatum*) is a potential threat to populations of the comb water-milfoil. Ironically, broad-scale herbiciding, weed raking, or draw-downs to control invasive aquatic plants may also threaten this rare species. Hand-pulling of aquatic invasive species is recommended around populations of rare aquatic species. Any drastic alteration in the habitat of the comb water-milfoil, including pond-bottom dredging, water drawdown, changes to rate of water flow, or indiscriminate weed control could threaten the survival of populations of the comb water-milfoil.

Range: The comb water-milfoil is circumboreal, and occurs south to Maryland and west to Texas and California.

Flowers or Fruit Present

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					■	■	■	■	■		

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Updated Sep 2003